

Our Docket No.: 01-00009
Serial No.: 10/767,249
Filing Date: January 28, 2004

REMARKS

Claims 29-51 are currently pending and under examination. Claim 1 has been amended support for which can be found in the specification, for example, at page 3, lines 13-15; page 30, lines 21-27; page 38, line 9, through page 39, line 22; page 53, lines 14-25; and page 55, lines 12-34. Claim 32 has been amended, support for which can be found in the specification, for example, at page 51, lines 18-21. Claims 49-51 have been amended support for which can be found in the specification, for example, at page 8, line 35, through page 9, line 4. Accordingly, the amendments do not raise any issues of new matter. Therefore, entry of the amendments is respectfully requested.

Objections/ informalities

The Office objects to the title of the invention allegedly because it is not descriptive of the invention to which the claims are directed. The title of the invention has been amended as suggested by the Office.

Rejections Under 35 U.S.C. § 112

Claims 32 and 49-51 are rejected under 35 U.S.C. § 112, second paragraph, as allegedly indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The Office alleges that claim 32 is confusing because it is unclear how multiplex PCR amplification recited in the claim correlates with the method of the claim from which it depends. The Office further alleges that claims 49-51 are confusing because it is unclear how the number of wells recited in the dependent claims is used in the method of the claim from which they depend. Applicant has amended the claims to more clearly indicate antecedent relationships. Accordingly, withdrawal of the rejection of claims 32 and 49-51 is respectfully requested.

Rejections Under 35 U.S.C. § 102

Claims 29, 30, 34, and 38-45 are rejected under 35 U.S.C. § 102(b) as allegedly anticipated by Fodor et al. (US 5,324,633). Applicant respectfully traverses the rejection. The claims recite, *inter alia*, “providing a first substrate with a surface comprising a plurality of assay wells, wherein said assay wells contain sample solutions each having a plurality of different target analytes.” Although the ‘633 patent describes various types of receptors that can be used as target analytes, any description of applying a target analyte to an array of polymers is limited to the use of a solution having only a single type of target analyte. Specifically, the passages cited at column 12, lines 4-12 describe that “each substrate is exposed to the receptor via a solution having different receptor concentration.” Thus, each sample solution applied to the array is homogeneous with respect to the receptor. Nowhere does the ‘633 patent describe the use of a sample solution having a plurality of different target analytes.

Applicant believes the above reasons are sufficient to overcome the ‘633 patent. Nevertheless, applicant respectfully submits that the ‘633 patent does not describe at least one other element of the claims. The claims require, *inter alia*, “dipping the array locations into the assay wells under conditions suitable for binding of the different target analytes to the different bioactive agents.” The Office appears to allege that by describing contacting a receptor (the alleged target analyte) to an array of ligands using a flow cell the ‘633 patent describes dipping an array location into an assay well. Applicant respectfully disagrees. The ‘633 patent describes the array substrate as being “secured to the upper surface of the flow cell” (see column 12, lines 23-25). As such the array is not dipped into an assay well but rather forms a cover over a well to form a chamber. Absent a description of the claimed step of dipping the array locations into the assay wells, the cited reference does not anticipate the claims. Accordingly, withdrawal of the rejection of claims 29, 30, 34, and 38-45 is respectfully requested.

Claims 29, 34-38, 40-45 and 48-51 are rejected under 35 U.S.C. § 102(e) as allegedly anticipated by Burbaum et al. (US 5,876,946). Applicant respectfully traverses the rejection. The claims recite, *inter alia*, “providing a first substrate with a surface comprising a plurality of assay wells, wherein said assay wells contain sample solutions each having a plurality of

different target analytes” and “providing a second substrate comprising a plurality of array locations, each array location comprising a plurality of discrete sites, wherein said sites comprise different bioactive agents.” The Office alleges that the ‘946 patent describes a microtiter plate coated with target molecule at column 9, lines 18-27. However, it is unclear to applicant how this description relates to the claim because the claim requires two different substrates, the first comprising a plurality of wells and the second comprising a plurality of array locations. By requiring two substrates, the claims differ from the single substrate (i.e. microtiter plate) having both a coating of target molecule and wells as described in the ‘946 patent.

The Office also alleges that the ‘946 patent describes beads containing 10^6 binding sites per bead. The beads can not be read as the first substrate recited in the claims because the beads do not contain wells, much less wells into which a second substrate can be dipped, as claimed. The beads also can not be read as the second substrate because they do not include a plurality of array locations, each array location comprising a plurality of discrete sites, wherein the sites comprise different bioactive agents. Rather, the beads of the ‘946 patent are described as having 10^6 streptavidin binding sites per bead. Because the beads have only a single type of bioactive agent (i.e. streptavidin) they do not satisfy the requirement for a plurality of discrete sites comprising different bioactive agents. Absent a description of the two substrates recited in the claims, the ‘946 patent does not anticipate the claims. Accordingly, withdrawal of the rejection of claims 29, 34-38, 40-45 and 48-51 is respectfully requested.

Rejections Under 35 U.S.C. § 103

Claims 30-47 are rejected under 35 U.S.C. § 103(a) as allegedly obvious over Fodor et al. (US 5,324,633) in view of Fodor et al. (US 5,800,992). In making the rejection the Office relies upon the characterization of the ‘633 patent given in the novelty rejection. The Office alleges that the ‘992 patent describes various elements recited in claims 30-47 and provides the motivation to modify the ‘633 patent to arrive at the claimed invention.

Applicant respectfully traverses the rejection. The references taken alone or in combination do not describe all elements of the claims. The claims depend from claim 29 and

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therefore require “dipping the array locations into the assay wells under conditions suitable for binding of the different target analytes to the different bioactive agents.” As set forth above in response to the novelty rejection, the ‘633 patent describes the array substrate as being “secured to the upper surface of the flow cell” (see column 12, lines 23-25). As such the array is not dipped into an assay well but rather forms a cover over a well to form a chamber. The reference is deficient because the claimed step of dipping array locations into assay wells is not taught or suggested. The ‘992 patent does not cure this deficiency because it also does not describe dipping an array location into an assay well. Therefore, the references taken alone or in combination do not teach or suggest all of the elements of the claim. Accordingly, withdrawal of the rejection of claims 30-47 is respectfully requested.

Claims 30-33, 38 and 41-45 are rejected under 35 U.S.C. § 103(a) as allegedly obvious over Fodor et al. (US 5,324,633) in view of Guo et al., Nucl. Acids Res. 22:5456-5465 (1994). In making the rejection the Office relies upon the characterization of the ‘633 patent given in the novelty rejection. The Office alleges that Guo et al. describes various elements recited in claims 30-33, 38 and 41-45 and provides the motivation to modify the ‘633 patent to arrive at the claimed invention.

Applicant respectfully traverses the rejection. The references taken alone or in combination do not describe all elements of the claims. The claims depend from claim 29 and therefore require “dipping the array locations into the assay wells under conditions suitable for binding of the different target analytes to the different bioactive agents.” As set forth above in response to the novelty rejection, the ‘633 patent describes the array substrate as being “secured to the upper surface of the flow cell” (see column 12, lines 23-25). As such the array is not dipped into an assay well but rather forms a cover over a well to form a chamber. The reference is deficient because the claimed step of dipping array locations into assay wells is not taught or suggested. Guo et al. does not cure this deficiency because it also does not describe dipping an array location into an assay well. Therefore, the references taken alone or in combination do not teach or suggest all of the elements of the claim. Accordingly, withdrawal of the rejection of claims 30-33, 38 and 41-45 is respectfully requested.

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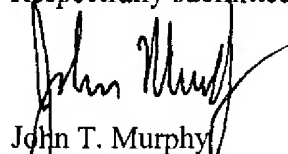
Double Patenting

Claims 29-51 are rejected on the ground of nonstatutory obviousness-type double patenting over claims 1-5 and 9 of US 6,858,394. Applicant will consider amending and/or canceling claims in one or both of the applications or filing a terminal disclaimer if necessary and appropriate when there is an indication of otherwise allowable subject matter.

CONCLUSION

In light of the Amendments and Remarks herein, Applicant submits that the claims are in condition for allowance and respectfully request a notice to this effect. The Examiner is invited to call the undersigned agent should there be any questions.

Respectfully submitted,



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Date: September 1, 2006

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